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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,997	03/30/2006	Sung-Hee Hwang	0001.1162	9792

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EXAMINER

BIBBINS, LATANYA

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2627

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,997	Applicant(s) HWANG ET AL.	
	Examiner LaTanya Bibbins	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Preliminary Amendment

2. Receipt is acknowledged of the preliminary amendment filed on March 30, 2006. In the amendment, claims 1-28 were amended and claims 29 and 30 were added. Currently claims 1-30 are pending.

Specification

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Park et al. (US Patent Number 7,289,414 B2).

Regarding claim 1, Park discloses a method of using a write-once disc comprising at least one recording layer, the method comprising:

allocating at least one spare area to a data area of the at least one recording layer (see the inner and outer spare areas (ISA and OSA) of Figures 4-7); and

dividing the at least one spare area into a sub spare area and a temporary disc management area (see the replacement areas (R/A) and the TDMA's of Figures 4-7),

wherein the size of the temporary disc management area is greater than or equal to $1/N$ (where N is a real number) of the size of the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 2, Park discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 3, Park discloses extending the sub spare area so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 4, Park discloses reducing the sub spare area in a direction in which the user data is recorded (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Regarding claim 5, Park discloses wherein each spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 6, Park discloses wherein the temporary disc management area is an area used to record information on temporary defect management and temporary disk management, including a temporary disc definition structure indicating defective positions (column 8 line 64 – column 9 line 9).

Regarding claim 7, Park discloses wherein N is 4 (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 8, Park discloses a data recording and/or reproducing apparatus comprising:

a recording and/or reading unit which records data on and/or reads data from a write-once disc comprising at least one recording layer (Figure 3 element 22 and the discussion in column 4 lines 26-29); and

a controller (Figure 3 element 26 and the discussion in column 4 lines 26-51) which allocates at least one spare area to a data area of the at least one recording layer, divides the at least one spare area into a sub spare area and a temporary disc management area, and controls the recording and/or reading unit to record information on position and/or size of each spare area (see the inner and outer spare areas (ISA and OSA), the replacement areas (R/A), and the TDMA's of Figures 4-7) and

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information on position and/or size of the sub spare area and the temporary disc management area on the write-once disc (column 9 lines 18-40),

wherein the size of the temporary disc management area is greater than or equal to $1/N$ of the size of one spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 9, Park discloses wherein the controller determines the size of the temporary disc management area to be less than or equal to $1/N$ of the maximum size allocable to one spare area (see the discussion in column 4 lines 26-51 and column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 10, Park discloses wherein the controller extends the sub spare area so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 4 lines 26-51 and column 5 lines 28-64 and column 7 lines 11-26), and controls the recording and/or reading unit to record information on the size of the extended sub spare area on the write-once disc (column 9 lines 18-40).

Regarding claim 11, Park discloses wherein the controller reduces the sub spare area in a direction in which the user data is recorded (see Figures 4 and 5 and the discussion in column 5 lines 28-64), and controls the recording and/or reading unit to record information on the size of the reduced sub spare area on the write-once disc (see the discussion in column 9 lines 18-40).

Regarding claim 12, Park discloses wherein each spare area is an area in which the user data is re-recorded or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 13, Park discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 14, Park discloses wherein N is 4 (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 15, Park discloses a single recording layer write-once disc on which user data is recorded from the inside out, comprising:

a recording layer which comprises a data area (see Figures 4 and 5),
wherein the data area comprises a spare area which is allocated to an area ranging from a predetermined position of the data area to the last position of the data area (see the outer spare areas (OSA) of Figures 4 and 5 and the discussion in column 6 lines 26-29) and which is divided into a sub spare area and a temporary disc management area from the inside out (see the replacement areas (R/A) and the TDMA's of Figures 4 and 5), and

wherein the size of the temporary disc management area is greater than or equal to $1/N$ (N is a real number) of the size of the spare area (see the discussion in column 5 lines 28-37 and column 7 lines 11-26).

Regarding claim 16, Park discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 5 lines 28-37).

Regarding claim 17, Park discloses wherein the sub spare area is an area which is extended inward so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management (see the discussion in column 5 lines 28-37).

Regarding claim 18, the single recording layer write-once disc as claimed in claim 15, wherein the sub spare area is an area which is reduced outward (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Regarding claim 19, Park discloses wherein the spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 20, Park discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 21, Park discloses wherein N is 4 (see the discussion in column 5 lines 28-37).

Regarding claim 22, Park discloses a dual recording layer write-once disc comprising:

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a first recording layer on which user data is recorded using an opposite track path method (see Figures 6 and 7 and the discussion in column 6 lines 44-53 and column 7 lines 4-8); and

a second recording layer which comprises a data area (see Figures 6 and 7 and the discussion in column 6 lines 44-53 and column 7 lines 4-8);,

wherein an area ranging from a predetermined position of the data area to the last position of the data area is allocated as a spare area which is divided into a sub spare area and a temporary disc management area from the outside in (see the outer spare areas (OSA), replacement areas (R/A), and TDMA's of Figures 6 and 7 and the discussion in column 8 lines 9-18) and

wherein the size of the temporary disc management area is greater than or equal to $1/N$ (N is a real number) of the size of the spare area (see the discussion in column 7 lines 11-26).

Regarding claim 23, Park discloses wherein the size of the temporary disc management area is less than or equal to $1/N$ of the maximum size allocable to the spare area (see the discussion in column 7 lines 11-26).

Regarding claim 24, Park discloses wherein the sub spare area is an area which is extended outward so that the sum of the sizes of the extended sub spare area and the temporary disc management area is less than or equal to N times the size of the temporary disc management area (see the discussion in column 5 lines 39-64 and column 7 lines 11-26).

Regarding claim 25, Park discloses wherein the sub spare area is an area which is reduced inward (see Figures 6 and 7 and the discussion in column 5 lines 39-64 and column 7 lines 11-26).

Regarding claim 26, Park discloses wherein the spare area is an area in which the user data is re-recorded, or updated file system information is recorded when the user data recorded in a user data area has a defect (see the discussion in column 5 lines 14-16).

Regarding claim 27, Park discloses wherein the temporary disc management area is an area in which a temporary disc definition structure is recorded (column 8 line 64 – column 9 line 9).

Regarding claim 28, Park discloses wherein N is 4 (see the discussion in column 7 lines 11-26).

Regarding claim 29, Park discloses extending the sub spare area in a direction opposite to that in which the user data is recorded (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Regarding claim 30, Park discloses the controller extends the sub spare area in a direction opposite to that in which the user data is recorded (see Figures 4 and 5 and the discussion in column 5 lines 28-64).

Citation of Relevant Prior Art

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Park US Patent Number 7,342,858 B2) discloses an optical recording medium and a method for assigning a spare area in a rewritable optical recording medium in which a supplementary spare area is assigned as necessary if an enlargement of the spare area is required. The method for assuming a spare area in a storage medium that can have two types of spare areas includes assigning an inner spare area to a size, and assigning an outer spare area to a variable size within a predetermined maximum allowable size, wherein the assigned variable size of the outer spare area is a multiple of a minimum unit.

Ohata et al. (US Patent Number 6,738,341 B2) disclose a rewritable optical disk with spare area and an optical disk processing apparatus. In order to enable recording and reproduction from optical disks with defect management formatted with different group configurations without changing the firmware of the conventional apparatus and to allow the size of the spare area to be specified at initialization, the position information indicating the position of the defect management area is recorded in the control data area provided in the read-only area of the optical disk, and the information indicating the first address or size of the spare area is included in the defect management area.

Park et al. (US PGPub Number 2007/0211591 A1) disclose a recording medium, and a method and apparatus for recording management information on the recording medium are discussed. According to an embodiment, the invention provides a method of recording management information on a recording medium, the recording medium including a temporary defect management area (TDMA) and a final defect

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management area (DMA), the DMA including a defect list area, the method comprising: recording, in the TDMA, defect list information produced while the recording medium is in use, and recording, in the defect list area of the DMA, the latest defect list information included in the TDMA when the recording medium is to be finalized, wherein the defect list area of the DMA includes a plurality of recording units, and the latest defect list information is recorded on at least one of the recording units of the defect list area.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaTanya Bibbins whose telephone number is (571)270-1125. The examiner can normally be reached on Monday through Friday 7:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571 272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/LaTanya Bibbins/
Examiner, Art Unit 2627

/Wayne Young/
Supervisory Patent Examiner, Art Unit 2627